

BDCP RDEIR/SDEIS Review Document Comment Form

Document: Administrative Draft – Chapter 11 Fish

Comment Source: US Fish and Wildlife Service

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No.	Page	Line #	Comment	ICF Response
Over all Gen eral Com men t			Please ensure that the current NEPA Effects Determinations fully support the modified decision. Need to provide specific information that clearly explains and supports the modifications to the NEPA Effects Determinations.	
1	11-583	17	The selenium section needs to include interpretation for Chinook salmon and steelhead. Although the exposure for these fish are less than sturgeon due to diet, their sensitivity to dietary exposure is much higher. What is the most relevant threshold for salmonids? What are the South Delta and confluence habitat uses and durations for these fish?	
2	11-583	26	“decreased significantly”. Need citation. There are SFEI and BOR publications which would show trend.	
3	11-583	27	“decline” Very vague. How much? Not a clear description of the intensity or extent of impairment. Could reference current vs. historical. Where are objectives not being met?	
4	11-583	30	Does not mention how project will interact with selenium, e.g. changes in contribution of SJR flows, providing more reliable irrigation for agriculture in Se enrich soil areas.	
5	11-583	32	Insert white sturgeon into list	
6	11-583	35	Current taxonomy is Corbula amurensis. Both genera are used. Should pick one for consistency throughout the document.	
7	11-584	7	Does not include increases in loading to the clam populations in Suisun via increased SJR water contribution.	
8	11-584	10	You mention the effects of other species above but then discuss only green sturgeon here. Confusing to the reader which species for which alternatives are being evaluated.	
9	11-584	12	Although spawning migration is a low exposure time for green sturgeon, we know that green sturgeon use the entire estuary for feeding and have extended vitellogenesis. References for green sturgeon habitat use in the Estuary:	

			<p>Heublein et al 2009 Migration of green sturgeon, <i>Acipenser medirostris</i>, in the Sacramento River, Environmental Biology of Fishes 84: 245-258</p> <p>2) Lindley et al 2011 Electronic tagging of green sturgeon reveals population structure and movement among estuaries. Transactions of the American Fisheries Society 140:108-122</p>	
10	11-584	31, 36	<p>It is not the author's fault that this is confusing. The science and regulatory status of Se thresholds are very unclear. But the 4 mg/kg dw threshold is for warmwater fishes and thus why it would be different then thresholds for sturgeon. At no point in this text or the appendix does the modeling or analysis consider or differentiate coldwater fish exposures especially chinook which are very sensitive. My main concern is that the text shows one Level of Concern (LOC) for some fishes and another LOC for sturgeon without explanation. For NEPA purposes the selected thresholds are acceptable. For ESA Section 7 there needs to be a thorough discussion on the most appropriate thresholds for chinook and green sturgeon.</p>	
11	11-584	36	<p>This threshold is dry weight also.</p>	
12	11-584		<p>This is a confusing interpretation of the available data. For green sturgeon, the model predicts that the increase will exceed the threshold for Alt 4 (H3, H4) by 17.5 and 19.0% from the NAA. The assignment of "low risk" from hazard quotients is questionable for listed species. Hazard quotients are useful for screening purposes, not for determining toxicity risk to individual species.</p>	
13	11-589	6	<p>Chinook are significantly more sensitive to dietary exposures. LMB might overestimate dietary exposure but that doesn't consider the significantly lower effects thresholds. This is a huge issue and one that likely cannot be addressed before the supplement is released but should be improved for the BA. See p. 24 of the link below for Chinook LC10s which approximate 1.7 µg/g dw. http://www.sfei.org/sites/default/files/GBP%202010-2011%20ch07%20biota%20final%20%28very%20last%20edit%29%204_12_13_0.pdf</p> <p>For Section 7 we will need to be more certain how the modeled LMB data related to salmonids. Whole-body fish tissue reported in Table M-14c, Alt 4-H3, is around the 1.82-1.9 for all years.</p>	
14		16	<p>How will these reductions occur? How will TMDL</p>	

			accomplishments balance with increased SJR water contribution to the Delta and increase available agricultural irrigation water available to the west-side?	
15	11-587	13	<p>It is useful to tell the reader for what exceedance quotients are appropriate or refer them to a location in the document (briefly described in Chapter 8, p. 57) where that explanation can be found. (e.g. what do small exceedances signify?)</p> <p>The quotient values are used for screening purposes in risk assessment; they do not quantify risk but provide results that are relative to risk. The quotient method is useful for screening. When the exposure value exceeds the threshold value the resulting quotient value is greater than 1. A value greater than 1 does not indicate that an effect is likely however it does indicate that a refined assessment is necessary to determine the risk. This type of assessment provides no information on the probability of an effect occurring or the size of the effect on a particular species.</p>	
16	11-589	8-11	<p>Please ensure that this analysis is supported by the table above. The data shows as much as a 19% increase in tissue concentrations for Alt4 H4 as compared to the NAA and the predicted tissues concentrations for green sturgeon exceed the 5 mg/kg LOC selected for the analysis. The author here is not accurately interpreting the risk, but is also limited by the incomplete analysis in the technical appendix (e.g. model uncertainty, selection of level of concern threshold, inclusion of the imperiled status of the fish). That is, minimal increases in tissue Se for fishes who's body burdens are already at or just below effects thresholds may be significant.</p>	
17	11-589	12-15	<p>We do not know this. Green sturgeon are more sensitive to Se, however, white sturgeon in the Delta are exposed in the Estuary for longer durations throughout their entire life history. What are the seasonal, clam diet contributions and Delta/Confluence/SJR habitat use differences between green and white sturgeon? How does that translate into comparative risk for the two species?</p> <p>Splittail do not feed at a lower trophic level than sturgeon. Their diets are similar but depending on life stage may contain smaller bivalves and more detritus. And the principal problem with Se in the Estuary has nothing to do with bioaccumulation rates of prey. It is all about Corbula (Linville et al 2002; Stewart et al 2004). Corbula bioaccumulation</p>	

			rates make food web length irrelevant. The question we need to ask is what proportion of splittail's diet is bivalve which is why I requested basic separate bioaccumulation modeling for splittail. We know despite the "reduced loading" to the Delta we are still seeing deformities in splittail. If anything their risk is similar to white sturgeon, not less.	
18	11-589	18-19	For which alts? Restoration is not relevant to Alt 4a. How can we address this issue for California Water Fix?! The only ideas I have are additional TMDLs and a fish tissue monitoring program.	
19	11-589	19	Per EPA, this statement ignores the effects of increased water supply and reliability for agricultural irrigation and the potential for increased Se runoff. New Delta-specific criteria are also anticipated from EPA in the near future that should be more stringent than current. Some conditions (grasslands) may improve, some conditions may increase impairment.	
20	11-589	28-37	<p>Please ensure that the NEPA Affects Determinations for ALT 4a is supported by data, modeling, analysis and interpretation in the document. Per the data presented, modeled fish issue exceeds toxicity thresholds! The upper benchmark of 8 mg/kg is proposed by EPA for general aquatic life beneficial use protection, is not appropriate nor supported by FWS as an appropriate effects threshold for a listed fish species where more sensitive species thresholds have been established. The 5 mg/kg threshold is EXCEEDED for sturgeon all alternatives but in not for the NAA nor EC. How does this translate for salmonids, splittail and white sturgeon??</p> <p>A logical argument can be made that Alts 1-9 are significant and unavoidable for all benthic feeding fishes due to the presence of Corbula without additional new state regulatory actions or monitoring. Why is splittail missing in this conclusion? This section is for all Alts not just 4a, correct? No call is made for Delta smelt either.</p>	
	11-598	35-37	<p>Delta smelt feed mid pelagic food web. This statement contradicts the next paragraph which compares observed body burdens with general thresholds.</p> <p>"Bennett et al. (2001) found average levels of 0.18 µg/g, which is just under the 0.20 µg/g general threshold for effects on fish (Henery et al. 2010:561)."</p>	

